

## CLAIMS

1. A wound dressing comprising a therapeutic agent and a matrix comprising polymers joined by cross-linkages which cross-linkages comprise, or consist of,  
5 oligopeptidic sequences which are cleavable by a protease associated with wound fluid such that the rate of release of the therapeutic agent increases in the presence of the protease.
2. A wound dressing according to claim 1 wherein the protease is associated  
10 with wound infection or ulcer formation.
3. A wound dressing according to claim 1 or 2 wherein the polymers themselves are not degraded by the protease or other factors that may be present in the wound environment.  
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4. A wound dressing according to claim 1, 2 or 3 wherein the polymer is a synthetic polymer.
5. A wound dressing according to claim 4 wherein the polymer is a polymer of  
20 N-(2-hydroxypropyl) methacrylamide (HPMA).
6. A wound dressing according to any one of the preceding claims wherein the oligopeptidic sequences consist of 3 to 15 amino acids.
- 25 7. A wound dressing according to any one of the preceding claims wherein the protease is elastase and wherein the oligopeptidic sequence comprises or consists of lys-gly-ala-ala-ala-lys -Ala-Ala-Ala-, Ala-Ala-Pro-Val, Ala-Ala-Pro-Leu, Ala-Ala-Pro-Phe, Ala-Ala-Pro-Ala or Ala-Tyr-Leu-Val.
- 30 8. A wound dressing according to any one of claims 1 to 6 wherein the protease is a matrix metalloproteinase and wherein the oligopeptidic sequence comprises or consists of -Gly-Pro-Y-Gly-Pro-Z-, -Gly-Pro-Leu-Gly-Pro-Z-, -Gly-Pro-Ile-Gly-Pro-Z-, or -Ala-Pro-Gly-Leu-Z-, where Y and Z are amino acids.

9. A wound dressing according to any one of claims 1 to 6 wherein the protease is a collagenase and wherein the oligopeptidic sequence comprises or consists of -Pro-Leu-Gly-Pro-D-Arg-Z-, -ProLeu-Gly-Leu-Leu-Gly-Z-, -Pro-Gln-Gly-  
5 Ile-Ala-Gly-Trp-, -Pro-Leu-Gly-Cys (Me)-His-, -Pro- Leu-Gly-Leu-Trp-Ala-, -Pro-Leu-Ala-Leu-Trp-Ala-Arg-, or -Pro-Leu-Ala-Tyr-Trp-Ala-Arg-, where Z is an amino acid.
10. A wound dressing according to any one of claims 1 to 6 wherein the protease is a gelatinase and wherein the oligopeptidic sequence comprises or  
10 consists of -Pro-LeuGly-Met-Trp-Ser-Arg-.
11. A wound dressing according to any one of claims 1 to 6 wherein the protease is thrombin and wherein the oligopeptidic sequence comprises or consists of -Gly-Arg-Gly-Asp-, -Gly-Gly-Arg-, -Gly-Arg-Gly-Asp-Asn-Pro-, -Gly-Arg-  
15 Gly-Asp-Ser-, -Gly-Arg-Gly-Asp-Ser-Pro-Lys-, -Gly-Pro-Arg-, -Val-Pro-Arg-, or -Phe-Val-Arg-.
12. A wound dressing according to any one of claims 1 to 6 wherein the protease is stromelysin and wherein the oligopeptidic sequence comprises or  
20 consists of -Pro-TyrAla-Tyr-Trp-Met-Arg-.
13. A wound dressing according to any one of the preceding claims wherein the therapeutic agent is an antimicrobial agent, a pain relieving agent, an antiseptic, an analgesic, a local anaesthetic, or a protease inhibitor.  
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14. A wound dressing according to any one of the preceding claims wherein the therapeutic agent is incorporated within the matrix.
15. A wound dressing according to claim 14 wherein the wound contacting  
30 layer of the dressing may comprise or consist of the matrix within which the therapeutic agent is incorporated.

16. A wound dressing according to claim 15 wherein the dressing comprises a liquid permeable wound contacting layer, an intermediate layer comprising or consisting of the matrix within which the therapeutic agent is incorporated and an outer, liquid-impervious backing layer.

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17. A wound dressing according to any one of claims 1 to 13 wherein the dressing comprises a barrier layer which comprises the matrix, the barrier layer being for initially separating the therapeutic agent in the wound dressing from wound fluid when in use.

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18. A wound dressing according to claim 17 wherein the barrier layer comprises an apertured sheet having a composition comprising the cross-linked polymers applied thereto in occlusive fashion.

15 19. A wound dressing according to claim 17 or 18, wherein a layer of the therapeutic substance is provided behind the barrier layer.

20. A wound dressing according to claim 19, wherein an absorbent layer is provided behind the barrier layer and the therapeutic substance is dispersed in the  
20 absorbent layer.

21. A wound dressing according to claim 17, wherein the barrier layer substantially encapsulates the therapeutic substance.

25 22. A wound dressing according to any one of the preceding claims wherein the wound dressing comprises an absorbent layer and/or a backing layer.